

MACHEREY-NAGEL

Automated plasmid purification

Bioanalysis



NucleoMag[®] Plasmid

Plasmid purification has never been easier

- Efficient automated processing reduces hands-on time
- Perfect match for MN magnetic rod systems
- High quality plasmid DNA for sequencing, cloning or transfection

MACHEREY-NAGEL

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Automated plasmid purification

NucleoMag® Plasmid

Automated plasmid purification with transfection-grade purity

Plasmid DNA serves as an important tool in genetic research, allowing scientists to manipulate genes for various purposes, understand biological processes, and develop novel therapies. However, the journey to obtain high-quality plasmid DNA can be challenging due to potential contamination and degradation that can compromise the integrity of the genetic material. The NucleoMag® Plasmid kit presents an effective solution by simplifying the plasmid isolation process. This kit streamlines plasmid DNA extraction while maintaining the purity and efficiency necessary for robust scientific investigations. By automating the isolation process, researchers can achieve consistent results without the need for constant monitoring. This not only saves time but also allows scientists to focus on other essential tasks at the same time.



Perfect match for our magnetic rod systems – A complete solution

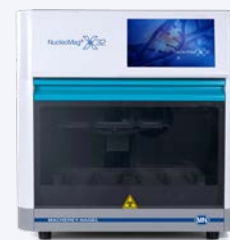
IsoPure Mini

- Compact footprint
- Automation benefits
- Android app compatible
- Process 16 samples in parallel



NucleoMag® X32

- User-friendly with saved methods
- Automation benefits
- Open platform for flexibility
- Process 32 samples in parallel



Product at a glance

Technology	Magnetic bead technology
Downstream application	Sequencing Cloning PCR Transformation Transfection In vitro transcription Ligation and restriction digest
Typical yield	1 – 50 µg
Sample material	≤ 5 mL <i>E.coli</i> culture
Elution volume	50 – 200 µL
Vector size	< 25 kbp
Typical purity ratios	A260/A280: ≥ 1.8 A260/A230: ≥ 2.0
Typical endotoxin levels	≤ 50 EU/µg: Lysate clarification via NucleoMag® Clearing Beads ≤ 50 EU/µg: Lysate clarification via centrifugation – 3 wash steps ≤ 10 EU/µg: Lysate clarification via centrifugation – 4 wash steps
Preparation time	Approx. 50 min on IsoPure Mini / MagnetaPure 32 Plus
Automation	Yes, magnetic rod systems
Use	For research use only

Scan for user manual:



[qr.mn-net.com/qr/\(IFU\)744750](http://qr.mn-net.com/qr/(IFU)744750)

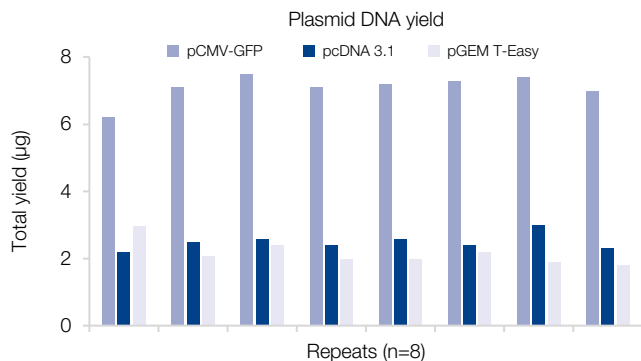
Scan for product website:



[qr.mn-net.com/qr/\(241\)744750](http://qr.mn-net.com/qr/(241)744750)

Automated plasmid purification

Application data – Purification of transfection-grade plasmid DNA

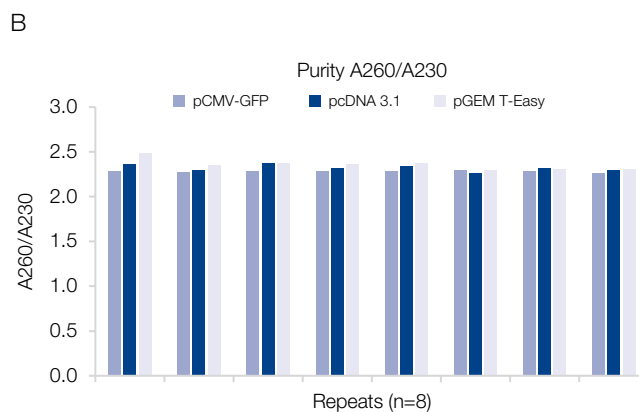
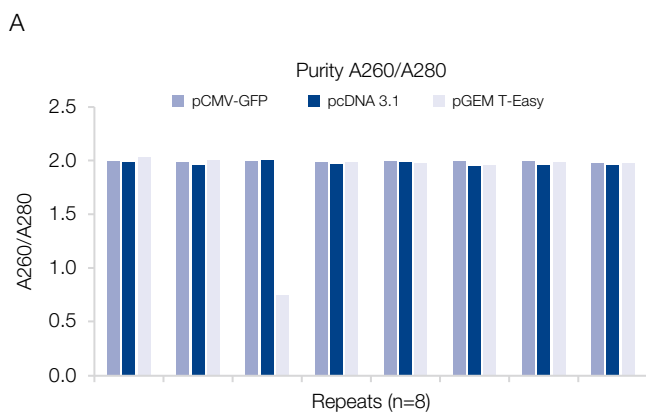


Consistent and reproducible results!

Automation-friendly magnetic bead technology!

High yields and consistency with automation

Plasmid DNA from 2 mL bacterial cells (*E.coli*) cultivated in LB medium was isolated using the NucleoMag® Plasmid kit. The kit was processed on the MagnetaPure 32 Plus, a magnetic rod system for automated nucleic acid extraction (n= 8). Three different vectors were isolated, including pCMV-GFP, pcDNA3.1 and pGEM T-Easy, resulting in high and consistent plasmid DNA yields. Lysate clarification was performed via centrifugation.



Ideal purity ratios for your downstream application

Plasmid DNA from 2 mL bacterial cells (*E.coli*) cultivated in LB medium was isolated using the NucleoMag® Plasmid kit. The kit was processed on the MagnetaPure 32 Plus, a magnetic rod system for automated DNA/RNA extraction (n= 8). Figure A shows A260/A280 purity ratios of high consistency across different vectors and preparations. Figure B displays the purity ratio A260/A230. Results show A260/A230 ratios are consistently ≥ 2.0 for all isolated plasmids. Lysate clarification was performed via centrifugation.

NucleoMag® Plasmid product features at a glance

- Automated plasmid isolation reduces hands-on time
- Highest consistency and reliability
- Plasmid DNA yield up to 50 µg
- Flexible: Two options for lysate clarification based on your needs
- Suitable for transfection, sequencing, cloning, etc.



Speak to an expert

Questions about MN's reagents for automation, scripting support or automation service?

Please contact us for personal assistance!

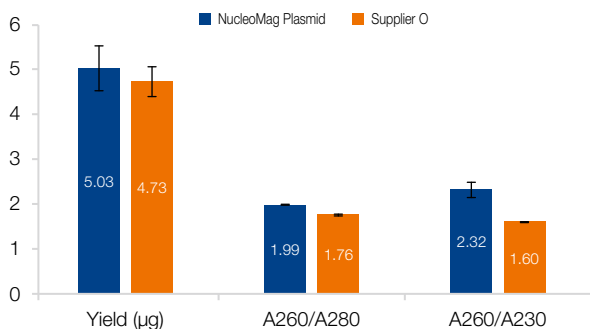
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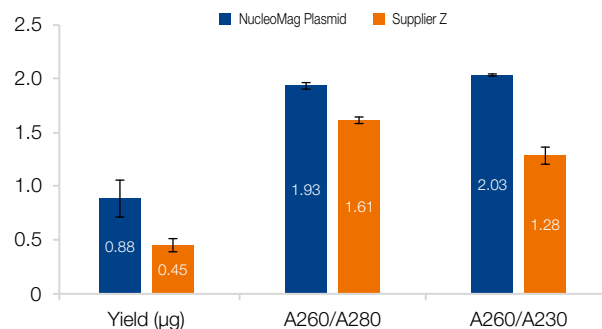
Automated plasmid purification

Application data – Comparison with other magnetic bead based plasmid isolation kits



High yields and purities

Plasmid DNA from 1.5 mL bacterial cells (*E.coli*) cultivated in LB medium was isolated using NucleoMag® Plasmid and a magnetic bead based kit from Supplier O. Plasmid isolation was conducted on the IsoPure Mini (n= 4). A pCMV-GFP vector was isolated using the 4 wash step protocol. Lysate clarification was performed via centrifugation for both kits. The figure shows total DNA yields in µg as well as A260/A280 and A260/A230 purity ratios.



NucleoMag® Clearing Beads as second processing option

Plasmid DNA from 750 µL bacterial cells (*E.coli*) cultivated in LB medium was isolated using NucleoMag® Plasmid and a magnetic bead based kit from Supplier Z. Plasmid isolation was conducted on IsoPure Mini (n= 4). A pCMV-GFP vector was isolated following each manufacturer's recommended protocols. Lysate clarification was performed via magnetic beads for both kits. The figure shows total DNA yields in µg as well as A260/A280 and A260/A230 purity ratios.

Product	EU/µg DNA
NucleoMag® Plasmid (Clarification via centrifugation)	4.3 ± 1.7
NucleoMag® Plasmid (Clarification via beads)	10.9 ± 1.3
Supplier O (Clarification via centrifugation)	18.4 ± 19.7
Supplier O (Clarification via beads)	18.9 ± 9.8
Supplier Z (Clarification via beads)	3757 ± 418

Low endotoxin levels with NucleoMag® Plasmid with both processing options

Plasmid DNA was isolated according to each manufacturer's recommended protocols. Endotoxin units (EU) were determined by a quantitative chromogenic LAL-test (n= 4).



NucleoMag® Plasmid



NucleoMag® Clearing Beads

Ordering information

Product	Pack of	REF
NucleoMag® Plasmid	96 preps / 384 preps	744750.1 / 744750.4
NucleoMag® Clearing Beads	2 × 1.75 mL (96 preps)	744751.1
96 Deep-well plates for magnetic rod systems	25	744955
8-well Tip Combs for magnetic rod systems	50	744960
Culture Plate (with Gas-permeable Foil)	4 sets / 24 sets	740488 / 740488.24
NucleoMag® X32	1	747020
IsoPure Mini (16)	1	747000

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MACHEREY-NAGEL



Management System
EN ISO 13485:2016
ISO 9001:2015

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